punctata, beech, yellow and black birches, buck-eye, and soon upon the rich soil of the mountain side come large trees of *Prunus serotina*, with sugar maples, chestnut, both the lindens, white and red oaks, hickories, cucumber trees, tulip tree, and all the trees which compose the magnificent forest of the southern Alleghanies.

All too soon, on the 21st, the pleasant companionship was broken up. Dr. and Mrs. Gray, having accepted the kind invitation of Mr. Arthur Cowles to visit some points in Ashe Co., which were explored by Dr. Gray in his first visit of 1841, left in company with him, for a three days drive to his home at Deep Gap, and two or three more to the railroad at Marion, Virginia. Prof. Sargent and Mr. Canby, with Mr. Loring and family, descended the northern side of the mountain the same day to Wilder's Forge, and thence over the Iron Mountain to Johnson City; and Mr. Redfield followed a day or two later. In the descent were noticed on the lower flanks of the mountain, *Azalea calendulacea*, *Habenaria pscycodes* and *Asclepias phytolaccoides*. In crossing the Iron Mountain range were seen *Diphylleia cymosa*, *Astilbe decandra*, and *Cardamine rotundifolia*. *Aristolochia Sipho* frequently displayed its pyramids of huge cordate leaves. Several species of *Magnolia* abounded in the gorges of the Iron Mountains, and there were sufficient indications that a thorough exploration of that range would yield a botanical harvest. Among the limestone rocks a few miles east of Johnson City (a locality noticed in 1876) was collected *Asplenium parvulum*, associated with *Camptosorus rhizophyllus*.

At Jefferson, the county seat of Ashe County, Dr. Gray made a hurried ascent of Negro Mountain, which rises close to the village. True to his recollection of 1841, he went directly to the point where he then discovered *Aconitum reclinatum*, and found it, but not yet in flower. Roots were taken for cultivation in the Botanic Garden at Cambridge. There he also collected *Saxifraga Caroliniana*, but not *S. Careyana*, which alone was found further south. A fresh comparison of the two very similar plants confirmed the published characters of the species. J. H. R.

NOTES ON CYPERUS, L. by N. L. Britton.

§ 345. **Cyperus cylindricus.**—(Mariscus cylindricus, Ell.; Cyperus ovularis, Torr., *Var.* cylindricus, Torr.)

Culms 6 in. to 20 in. high, smooth, triangular; leaves linear, roughish on the margins especially near the apex; involucre of about 6 very unequal rays, rough on the edges; umbel about 7 rayed; rays ½ in. to 2½ in. long; heads cylindrical, or sometimes oblong, of numerous linear spikes, the lower of which are somewhat reflexed; spikes usually 2-flowered, the two lower scales empty; scales ovate, obtusish; achenium linear-obvate, or linear oblong, triangular, shorter than the scale; styles trifid; stamens three. Roots fibrous, from clustered tubers. Very distinct from C. ovularis, Torr., with which it has been confounded.

Abundant in the Pine Barrens of New Jersey; Coney Island; Tottenville, S. I.; Gravesend and Rockaway (W. H. Leggett);

Aiken, S. C., (H. W. Ravenel); Southern N. J., and Delaware, (W. M. Canby,) vide June BULLETIN.

Cyperus erythrorrhizos, Muhl.—This Western species was found at Wading River, Suffolk Co., L. I., in 1872, by Messrs. E. S. Miller and Leggett, making a very remarkable addition to its geographical range. Dr. Torrey, in his "Catalogue of Plants within 30 miles of New York City," records it as common in wet meadows; this assertion certainly does not hold true now, the nearest locality for the plant being in Pennsylvania. Perhaps the statement in the Catalogue is meant to apply to C. erythrorrhizos, Torrey, which is C. Michauxianus, Schultes, and is found frequently around New York.

Cyperus dentatus, Torr.—In the State Flora, Dr. Torrey describes this species as having the "rhachilla naked." Gray's Manual however, says "axis wing-margined." I have a large number of specimens of the plant from different localities, and in all of them, the axes of the spikes are naked. Have we two forms of the species, or is the Manual at fault?

§ 346. **Self-Defence in Plants.**—This subject has been studied by *Prof. Kerner* of late, but Vergil seems to have thought about it before the Christian era. He is foretelling a return of the golden age, and uses this remarkable expression, ECLOG. IV. 28.

Molli paulatim campus flavescet arista,

where *molli* has puzzled commentators. Ladewig interprets it rightly, "with smooth ears, since they will have no more need of the sharp awns for protection against the birds which will then become harmless." Martyn takes the same view, and quotes Cicero as thus accounting for the beard of wheat. *Paulatim* is probably only put in to help paint the grain gradually growing golden under the summer sun; it can hardly hint at the gradual change of evolution, and yet Vergil had, with the Epicurean School, speculated much on kindred subjects.

§ 347. **Vitis.**—It is not yet too late in the season to recall to collectors Dr. Engelmann's request for contributions throwing light on the limits especially of *V. cordifolia* and *V. riparia.* On pp. 233–4, and 310–11 of the current volume of the BULLETIN he pointed out clearly the distinctions; he has since told us that *V. riparia* may also be known by the finer fibres of the shreds of the separating bark. It is desirable to learn how far south and east *riparia* reaches, how far north and west *cordifolia.* For the distinctions the notes referred to should be studied, but we may briefly state as a reminder, that *riparia* has a bright, deep green leaf (above) with a truncate sinus, stipules longer, with the diaphragm of the nodes $\frac{1}{8}$–$\frac{1}{4}$ line thick, and fruits earlier; *cordifolia* has a dull, paler surface, acute sinus, rounded short stipules, with diaphragm interrupting the medullary tissue in the last year's cane $\frac{1}{2}$–1 line thick, and a stronger fragrance to the leaves.

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